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April 1st, 2010
Renesas Electronics Corporation

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7542 Group

A-D Converter

1.0 Abstract

The following article introduces and shows an application example of converting the analog input voltage input to digital values.

2.0 Introduction

The explanation of this issue is applied to the following condition:

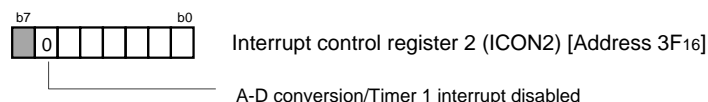
Applicable MCU: 7542 Group

3.0 Contents

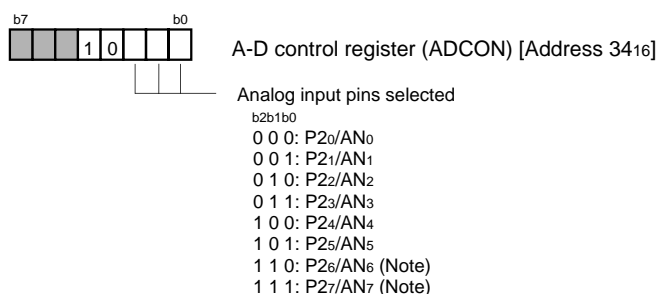
3.1 Setting of A-D converter

Figure 1 shows the relevant registers setting.

Process 1: Disable A-D conversion/Timer 1 interrupt.

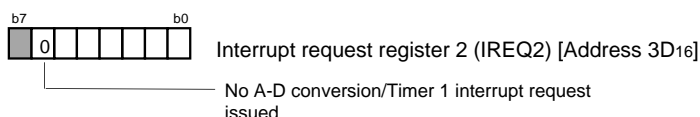
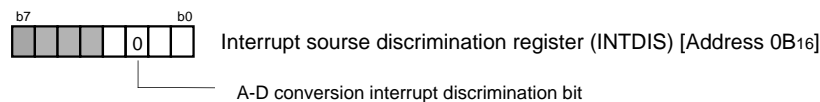


Process 2: Set A-D control register.

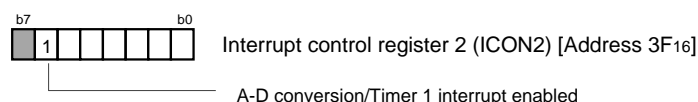
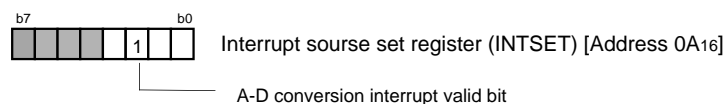


Note. These can be used only for 36-pin version.

Process 3: In order not to execute the no requested interrupt processing, set "0" (Interrupt does not occur) to the A-D conversion interrupt discrimination bit, set "0" (no requested) to the A-D conversion/Timer 1 interrupt request bit.



Process 4: When the interrupt is used, set "1" (Interrupt valid) to the A-D conversion interrupt valid bit, set "1" (interrupt enabled) to the A-D conversion/Timer 1 interrupt enable bit.



Process 5: Start A-D conversion.

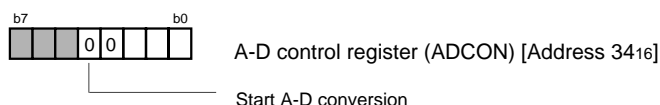


Figure 1 Relevant registers setting

3.2 Example of Control Procedure

Outline: The analog input voltage input from a sensor is converted to digital values.

Specifications: •The analog input voltage input from a sensor is converted to digital values.

•P20/AN0 pin is used as an analog input pin.

Figure 2 shows a connection diagram, and Figure 3 shows an example of control procedure.

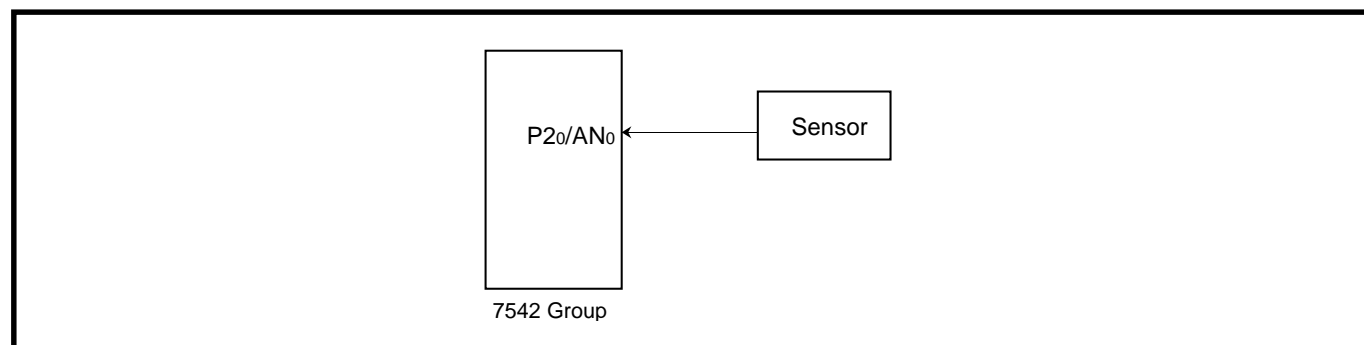


Figure 2 Connection diagram

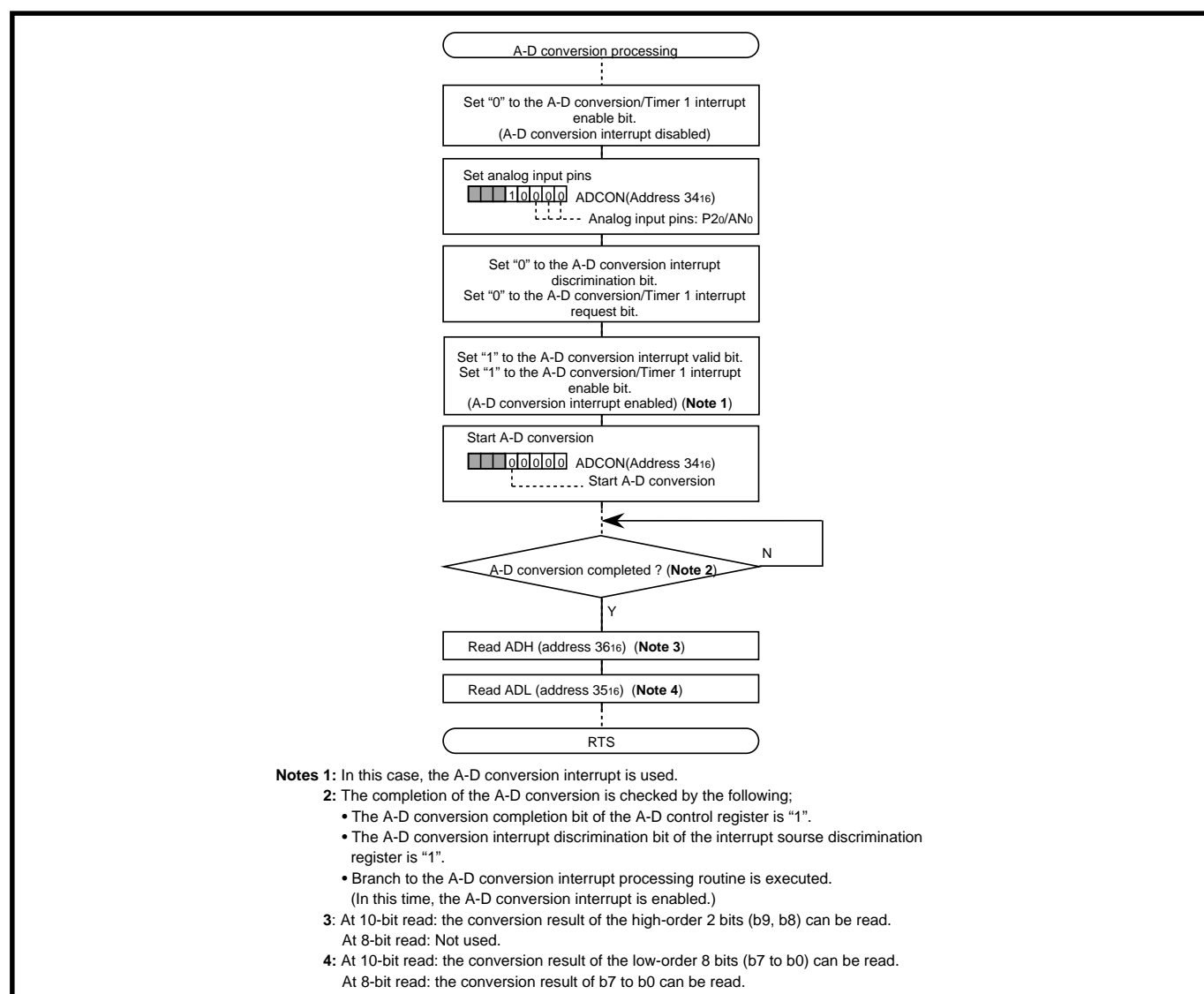


Figure 3 Control procedure

4.0 Reference

Renesas Technology Corporation Semiconductor Home Page
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